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## National glacier monitoring – strengths and weaknesses, responsibilities and priorities

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Glaciers impact the lives of millions of people whose drinking water supply, energy production, and irrigation-dependent agriculture is disrupted as the glaciers melt. Knowledge on glacier distribution and quantification of glacier changes is crucial to assessing the impact of glacier shrinkage on the society. Therefore, glacier monitoring is vital to the development of sustainable adaptation strategies in regions with glaciated mountains.

Detailed information on national glacier monitoring, including data on glacier distribution as well on as glacier changes, is compiled in a standardized procedure to summarize and also compare the situation in each of the glacierized countries. The resulting country profiles are assessed in relation to the existing monitoring strategy of the Global Terrestrial Network for Glaciers (GTN-G). Gaps between the current implementation of glacier monitoring and implementation targets are analyzed in a solid gap analysis, which allows countries to be categorized as having poorly developed monitoring, needing improvement, or having well-developed monitoring. By this, it is intended to raise awareness of the challenges for the individual national monitoring systems and to illuminate what future needs might be to improve the situation.

The study is meant to provide a baseline for scientists and decision-makers in international organizations, national governments, and local communities, as they take responsibilities to improve glacier monitoring systems and care about their relevance in decision-making processes.